

Stilbopsar kenricki still seems to me to be distinct (*cf.* Sharpe, *Ibis*, 1899, p. 593).

117. SPREO SUPERBUS.

Spreo superbus (Rüpp.) ; Sharpe, *Cat. B. Brit. Mus.* xiii. p. 189 (1890) ; Jackson, *Ibis*, 1899, p. 595 ; Hartert, *App. Afr. Sun*, p. 342 ; Neum. *J. f. O.* 1900, p. 280.

Nos. 646, 647 ♂, 648 ♀. Lake Baringo, March 1901.

118. LAMPROTORNIS BREVICAUDA.

Lamprotornis brevicauda Sharpe ; Jackson, *Ibis*, 1899, p. 591 ; Neum. *J. f. O.* 1900, p. 281.

No. 644. ♂. Lake Baringo, March.

119. HETEROCORAX CAPENSIS.

Heterocorax capensis (Licht.) ; Sharpe, *Ibis*, 1891, p. 239 ; Jackson, *Ibis*, 1899, p. 587.

Nos. 635, 636. ♂ ♀ ad. Lake Baringo, March 22, 1901.

VIII.—*On a Collection of Birds from Western Australia.*

By ROBERT HALL.

THE collection which is the subject of these notes was formed by the writer between Albany and the Houtman's Abrolhos between Sept. 23rd and Nov. 8th, 1899. In it the species represented number 69, the specimens 156. They are from three types of country—the heavily timbered south-west corner of the district, the flat region beyond, and the Houtman's Abrolhos. Although I did not travel on the south-east of the Stirling Range, I secured a collection of eggs of the birds resident in those parts which indicate the boundary between the moist mountain-district and the lightly timbered sandy lands to the eastward.

The places of special interest to me were the country between Albany and Denmark, some 40 miles west of the former ; Katanning, 100 miles north of the same ; Geraldton, 300 miles above Perth ; and the Houtman's Abrolhos, some 40 miles off Geraldton. In Denmark I did not meet with sufficient success to compensate me for some three days

spent in that vast area, the timber of which seemed to me too heavy for any other purpose with regard to bird-life than to hide its representatives. I was slightly more fortunate at Tor Bay, which is midway between Albany and Denmark, and less heavily wooded. It being more or less rainy in that district for eight months of the year, the birds partial to a damp atmosphere congregate there. After leaving Albany for Katanning, the wet country changes at Mt. Barker, some fifty miles from the coast, and the Acacia known as the "Raspberry-jam Tree" becomes the prevailing timber. Katanning is the centre of a flat area bearing the "jam" tree, and possessing an occasional supply of water. This is just suited to the Yellow-throated Minah (*Manorhina flavigula*). Some eighteen miles west of Katanning is a creek that attracts a certain number of species throughout the year, and to the east of it is a shallow lake that furnishes a variety of bird-life at certain seasons. Near Perth a naturalist can profitably spend some time, and an outing of three or four miles will take him to something worth seeing. Even in the picturesque suburb of South Perth Banksias are still to be met with and Honey-eaters are numerous. Within a mile of the Zoological Garden a *Haliastur sphenurus* had, I found, built its nest. Geraldton, where I spent a week, is the south-western sea-port of the arid country, and one need only walk along the deep dry bed of a river to find that bird-life is there associated with hot air. The Meliphagidæ are abundant, while the flora is, as elsewhere, magnificent in spring.

The Abrolhos are coral-islands which sea-birds haunt in abundance. A cruise through them will ensure success to the explorer. As these notes will so often refer to specimens collected on the Houtman's Albros, I will give (see Appendix), along with some nesting-data, a list of the birds found there. Two such have been previously published—one, in 1890, by Mr. A. J. Campbell, and a second, in 1898, by Mr. R. Helms*. The latter list included all the species given in the former with two additions (*Anthus australis* and

* 'Producer's Gazette of Western Australia,' v. p. 6.

Limosa uropygialis), making a total of thirty-nine in all. To this list I can now add nine species—four (*Cinclorhamphus rufescens*, *Halcyon sanctus*, *Petræca goodenovii*, and *Phaps elegans*) of which I myself collected specimens; three (*Heteractitis brevipes*, *Glottis nebularius*, and *Squatarola helvetica*) which were obtained through the Director of the Perth Museum; and two more (*Chenopsis atrata* and *Eudyptula minor*) guaranteed by other authorities. This makes a total of forty-eight species now known from these islands.

I did not meet with the Pipit previously mentioned, but, on the other hand, a Lark (*Cinclorhamphus rufescens*) is now recorded, I believe for the first time, for these islands. It is, moreover, of interest from a geographical point to know that *Heteractitis brevipes* is found in Western Australia. Both *Chenopsis* and *Eudyptula* are rare visitors to the islands.

The numerals given in the list correspond with those used in the 'Key to the Birds of Australia,' and additional nesting-data are supplied from the author's own observations as well as from original information supplied by Mr. O. Lipfert, an Assistant in the Perth Museum, and obtained during a tour to the Abrolhos in 1894.

My thanks are due to the Hon. George Throssell, late Minister of Lands (now Premier) for full permission to collect specimens in the State, to Messrs. Broadhurst, McNeil & Co. for placing a cutter-yacht at my service at the Abrolhos, and to Mr. Justice Pennefather for making special travelling arrangements for me.

1. ACCIPITER CIRRHOCEPHALUS. Sparrow-Hawk. (Hall's Key, p. 4.)

One ad. ♂ and one ad. ♀ were obtained. 18.10.99. Geraldton.

I find that the male of this species takes a share in the incubation of the eggs. I note, however, that the tail-feathers of the hen are much more worn. Neither of the parents were timid as we approached along the dry bed of the deep-banked river-course and ascended a tall acacia to see into the nest some twenty-five feet above the sand below.

It was built of dead twigs of the above tree, but was lined with green leaves of the Eucalypt near it. For comparison, the dimensions were: breadth 16 inches, internal diameter 7 inches, depth of bowl about 1.5 inches, depth of the whole solid tapering mass 5 inches; ledges of nest narrow. There were two fresh eggs. 13.10.90. Geraldton.

2. PANDION LEUCOCEPHALUS. Osprey. (Hall's Key, p. 5.)

A. Nestling. Pelsart Group, Houtman's Abrolhos. 17.10.99.

B. Nestling. Easter Group, Houtman's Abrolhos. 22.10.99.

No descriptions have been published, to the best of my knowledge, of the nestling of this species, and that given for *P. haliaëtus* in the British Museum Catalogue does not agree with either of these specimens. In stage A the outer toe was not reversible, giving the bird the appearance of three toes in front and one behind. In B the outer toe was reversible.

A. *Nestling* (about 7 days old).—Downy, save for imperfect feathers upon the head, neck, lower fore-neck, both sides of the median line of the mantle, tail, inner edge of each wing, and region above the humerus. Except as regards the head and hind-neck these are feeble. The feathers of this stage would be replaced by quite another series before the young left the nest. The plumage upon the head and hind-neck is rufous buff, and upon the cheeks light rufous buff; between the crown and cheeks, immediately behind the eyes, is a conspicuous broad oblong line of black; the chin, throat, and the greater part of the lower fore-neck are sooty brown, with rufous feathers appearing below the chin; the chest is sooty brown, between which and the throat is a broad zigzag line of black feathers that are just bursting, among which are a few of a like nature that are rufous; the breast is ruddy greyish white; the abdomen sooty brown, with a circular featherless area half an inch in diameter; while parts of the flanks are greyish white. The dorsal surface is

sooty brown, medially divided by a line of whitish down (spinal tract down) from below the upper neck to the tail; the upper leg is sooty brown, regularly spotted with white; the tarsus and toes are covered with a soft yellow skin composed of reticulated hexagonal scales; the bill is horn-black, the lower mandible is tipped with yellow; the nails are black; the iris is hazel. Length 12 inches.

B. *Nestling* (strongly feathered; about to leave nest).—Feathers of the head and neck all round light rufous, more so on the lower than on the upper part, each feather streaked along the middle with black and bounded laterally with white; the rufous is conspicuous on the lower fore-neck and less so on the nape, which is streaked; chin and throat whitish, tinged only with rufous and narrowly marked down each centre with brownish black; behind the eye a line of black feathers; no broad line of white running down the side of the neck; a broad band of light brown down upon the chest, with only two or three feathers; breast, abdomen, and under tail-coverts white, slightly tinged in the median part with light yellowish buff; interscapulum and back deep brown, each feather broadly edged with buff; outer wing-quills black, tipped with pale rufous; inner quills chocolate-brown, edged with pale rufous like the majority of the upper tail-coverts, which are chocolate-brown broadly edged with buff; under tail-coverts deep brown edged with rufous buff; tail-feathers, only partially “burst,” blackish brown and ashy brown alternately barring the tail, tips pale rufous; legs partly clothed with down and white feathers; tarsus and foot with loose tawny skin in a complete fold; talons and bill horn-black. Total length 22·5 inches, wing 12, tail 6·5, tarsus about 2·1.

Each islet has its pair of Ospreys with a nest upon the high land above the beach, which rarely exceeds five feet in altitude. This year the eggs were laid early in October, and I only succeeded in finding eggs on the 17th and 26th of that month. Many nests contained two young birds each, while one had a nestling and an addled egg. They were made of a mass of coral, shells, sticks, and seaweeds, while

a large salt-bush was easily hidden by the structure for which it formed a basis. Many of the nests were not more than three feet high, but others were much larger, and all were upon the ground. Mr. Gilbert spoke of a wonderful structure upon Rotnest Island being fifteen feet in circumference. One of those I found measured at the base twenty feet six inches, the top being only two feet from the ground, and being forty inches across, with a depression for the young of three inches. Living Salsolaceæ were growing upon three sides. Another nest upon an islet south-east of East Wallabi Island of the Abrolhos may be described as five feet six inches high, seven feet at the base, three feet six inches across the top, with a depression of about four inches; it was cone-shaped with the apex sliced off, and was composed of salt-bush branches regularly heaped up, having dead pieces of coral and sponges interspersed. The nest had salt-bush growing up one side. Within it were marine weeds, sponges, and a few pieces of green plants. The whole structure was practically a small stack of wood cylindrically placed on end in the middle of a few acres of dead coral, of which the island is almost entirely composed.

The Osprey is referred to by Professor Newton* as a daring bird, and one that, if possible, severely handles the collector of its eggs or young. On that part of our coast washed by the Indian Ocean the birds do not appear to attack an intruder, and all that attracted my attention when handling the young was their plaintive cry high above the nest.

3. STREPERA PLUMBEA. Leaden Crow-Shrike. (Hall's Key, p. 8.)

Sk. ad. ♂. 3.10.99. Denmark River.

The only specimen secured helps to support the view that *S. plumbea* is a subspecies of *S. cuneicaudata*. For two hundred miles northward this bird is commonly known as "the squeaker." Young were in the nest on October 25th.

* 'Dictionary of Birds,' p. 661 (1896).

4. GRALLINA PICATA. Magpie-Lark. (Hall's Key, p. 10.)

Sk. ad. and juv. 5.10.99. Katanning.

One notices the fact that in western birds there is a lack of vivacity and a want of melody in the voice. The eastern and western representatives of this species shew a remarkable difference in this respect, for, while one pipes pleasantly, the other gives forth a broken and unpleasant series of jarring notes. The call is harsh and creaky, and so continuous as to resemble grinding. In the Denmark River and Albany districts I did not meet with a specimen, so that my first impressions were formed at Katanning, where young birds were essaying their first flights in a tree in the town.

5. COLLYRIOCINCLA RUFIVENTRIS. Rufous-bellied Shrike-Thrush. (Hall's Key, p. 11.)

Sk. ad. ♀. 28.9.99. Tor Bay, Albany.

I met with this species breeding freely at Geraldton. Five clutches of eggs that I found varied in a similar way to those of *C. harmonica*.

Like that eastern bird, it prefers to have the nest as well hidden as possible, and chooses a twiner (*Cuscuta*) where it can. I found the whole depth of a nest to be 3.75 inches and that of the bowl 2.25 inches; diameter 5.5 inches × 4 inches, making the structure ovate. One such had been used for two seasons, and was formed of *Melaleuca* bark, the lining being composed of rootlets of a wiry nature.

6. GRAUCALUS MENTALIS. Little Cuckoo-Shrike. (Hall's Key, p. 12.)

Imm. sk. ♀. 30.9.99. Tor Bay, Albany.

Near the mouth of the Denmark River I noticed several individuals of what appeared to be this species on the wing.

This skin agrees with the description in the key supplied for the species by Dr. Sharpe, but I quite believe that a good series of skins would allow of fuller keys with which to work. There is so wide a range of measurements between *G. melanops*, *G. parvirostris*, *G. hypoleucus*, and *G. mentalis* that the identification of a specimen is most

difficult. The species under review is, I believe, new to Western Australia.

7. *LALAGE TRICOLOR*. White-shouldered Caterpillar-eater. (Hall's Key, p. 12.)

A, B. ♂ ad. sks. 27.10.99. Geraldton.

C. ♂ semi-ad. sk. 6.10.99. Katanning.

These three skins are intensely black or metallic green-black, according to the light. They are much more black and lustrous than eastern skins in my cabinet, one of which is dated (in the breeding-season) 5.10.98, and another 5.3.99. The plumage is most likely a matter of age, and the first-named bird had probably moulted early or had only experienced the autumn moult.

Specimen C.—This clearly indicates a transitional stage; because the right half of the rectrices (except one, which is new) are brown, the innermost secondaries (two on the left and three on the right wing) being also brown, and the wing-coverts having their edges marked with light brown. The basal portion of the under mandible has the brown indicative of youth.

Change of plumage.—Points of interest are presented to us not only by specimen C itself, which is just concluding a heavy moult of quills and contour-feathers, but by the fact of finding in the same specimen the white of the secondaries rapidly commencing the moult by "tuck pointing." This specimen, I should say, is not proceeding normally. In A and B the white of the secondaries is fast disappearing by the same process, for whereas a broad band of white (0·7 inch) exhibits itself along a part of the outer web, a ragged and short band shews along another part of it. This applies to many secondaries, and probably commences while the birds are nesting, because I saw no young birds fledged, but found nests of young and collected male birds on the same ground.

I presume that, having served their purpose of adornment in A and B, if not C, such feathers are the first, by this special form of moult, to change.

Specimen C is moulting its quills in early October instead

of in autumn, as may be seen by my specimens. In the above-given observations it is shown that this species has two methods of changing its plumage.

8. *MICRÆCA ASSIMILIS*. Lesser Brown Flycatcher. (Hall's Key, p. 13.)

There is little of interest in the skin obtained at Katanning, except that the under surface, save for the tail-coverts and throat, is brown; the coverts are white, while the throat is a dull white. This probably indicates a stage between the nestling and adult. Wing 3.45 inches.

9. *PETRÆCA CAMPBELLI*. Western Scarlet-breasted Robin. (Hall's Key, p. 13.)

A-F. Sk. ad. ♂ s. Sept. to Oct. 1899. Denmark River; Tor Bay; Katanning.

G. Sk. ad. ♀. 29.9.99.

H. Fledgling. 28.9.99. } Tor Bay, Albany.

J-K. Young. 30.9.99. }

M-N. Imm. ♂ s. Sept. 29th, Tor Bay; Oct. 5th, Katanning.

O-P. Imm. ♀ s. Sept. 27th, Tor Bay; Oct. 5th, Katanning.

The first notice of this species, as such, is to be found in 'The Ibis' (1899, p. 303), but it is very brief and refers only to the male. Up to the moment of writing no description has appeared, in this colony, of the female. As, however, Mr. Campbell has sent an account of both sexes to Dr. Sharpe, no doubt it will soon follow, and I am able to devote my attention to the several stages marked above which deal with immature examples. I was specially pleased to find between fifteen and twenty individuals of this species in the hill-country of Western Australia, and each time to note the large black cap and small white forehead, that convinced me of its being distinct from the eastern *P. leggii*. Like our Robin it does not confine itself to forest-land only, but is to be found in lightly timbered country. Eggs were collected last season in the Stirling Range, one of which was given to me during my visit, and at the moment of writing this still

remains one of the few Australian birds' eggs not yet described in scientific literature. The clutch is composed of three eggs, one being deposited each successive day. A nest found at Katanning was built with three walls: (a) external, bark; (b) thin middle, grass-stems and horsehair; (c) internal layer, animals' brownish-red hair. Slightly oval in shape, its greatest diameters were 3 inches \times 2.5 inches; the bowl-diameter was half an inch less, while its depth was 1.5 inch; the depth of the whole structure (which tapered to accommodate itself to the fork, 7 feet above the ground, in a Casuarina) was 3 inches. A much more beautiful and broader nest is exhibited in the Perth Museum.

Specimen H.—Upper surface brown, each feather streaked with white along the mid-rib; lores and base of forehead shewing white; throat a mixture of brown and whitish; chest deep brown; abdomen white; under tail-coverts pale chestnut; all the white on the wing-quills of the adult represented by rufous; under surface of wing with a white line across the basal part of the quills; outer tail-feather as in adult, except for the measurements; each tail-feather with the rachis extended so as to appear spinose; bill and feet lemon-coloured; nails black; soft ring round eye pale yellow; eyes black. Total length 3.4 inches, wing 2.2.

Specimen J.—This appears to have left the nest only a few days before being killed, and is similar to H, but has larger measurements, while the bill is not so yellow. Total length 4 inches, wing 2.3.

Specimen K.—This is very little older than H or J. The upper mandible is maturing into black, and the rufous of the wings is becoming white; there is more white on the forehead than in H or J, and it is now becoming a definite frontal mark; feet below rich orange, above light orange. Total length 4.55 inches, wing 2.75.

Specimen M.—A great change is now being effected in the plumage. No red appears in H, J, K, but here we have an outburst of not only "reds," but "blacks" and "whites," a large proportion of the streaked feathers of all stages being still retained in the dorsal region.

The white frontal mark has enlarged to the size normally found in the adult, but the texture of each feather is soft, and there is no superimposed layer of cells to give a glint. The wings still retain some light rufous marks in place of the white shown by the adult, while white is present in the primaries and secondaries. Black feathers are mixed with the brown on the head, throat, interscapulum, rump, and lesser wing-coverts; the red of the chest is pronounced in one spot, but sparse below and on the left of it. Bill black above, pale yellow at base of lower mandible; feet blackish; soft skin round eye yellow. Total length 4·9 inches, wing 2·75.

Specimen N.—Similar to M, but has a broader and deeper patch of red, which is lighter than in the adult; more black feathers on the throat and back; a darker bill; and more white shewing on the small brown edges of the wing-coverts, that form so fine an appearance of clear white in the mature bird.

Specimens O and P.—These are skins of females further advanced towards the adult stage than are M and N in the male. There is no sign of immaturity on the backs, and the red of the breasts is broadly though feebly distributed. The throat-plumage varies, being brown in O, whitish in P, but in neither grey as in the adult. The lower mandible and frontal marks serve to prove the specimens nearly mature. The white band on the wing-coverts is stronger in O than in the adult. Total length 5 inches, wing 2·7.

Just as the green on the wings and tail of certain Meliphagidæ is pronounced in the fledgling and weak in the adult, so it is with this Robin as regards the rufous upon the upper surface of the wings and upon the under tail-coverts. Rufous is clearly shown in the nestling, but disappears gradually through the various stages, until the white of the adult appears (within ten weeks).

The tail-feathers are practically pointed in the nestling—the spinose appearance vanishing gradually in all the stages above noted until the rounded form of the rectrices of the adult is reached.

Stages H, J, K, M, and N are clear steps in the "ladder" of development to the mature form.

10. *PETRÆCA GOODENOVII*. Red-capped Robin. (Hall's Key, p. 13.)

Young sk. Long Island, Pelsart Group, Houtman's Abrolhos. 27.10.99.

This species is generally mentioned as met with singly or in pairs. I saw only one specimen upon the whole group, the species being now recorded from the Abrolhos for the first time. The struggle of so young a bird to reach an island forty miles from the mainland must have been great. No assistance to do so would, most likely, be given to it beyond the strong off-shore wind with which it started. An island-life did not seem to have affected its short course of continental manners, for it flew from stone to stone instead of from branch to branch, keeping to the beach and behaving just as a Robin does.

The bird was so young that the fledgling feathers still remained in places, and the forehead bore no trace of a red flush; commissure yellow; length of wing 2.4 inches.

11. *PETRÆCA BICOLOR*. Hooded Robin. (Hall's Key, p. 14.)

A. Sk. ad. ♂.	7.10.99.	} Katanning.
B-C. Sk. ad. ♀ s.	5.10.99.	
D. ♂. Moulting.	6.10.99.	
E. Young.	5.10.99.	
F. Young.	6.10.99.	

Specimen D.—This bird is in a tricolor state—white, brown, and black. It does not show the streaked brown or white of the young, nor the black of the adult (there is a uniform brown phase that seems to indicate a stage between them). All the upper surface is brown and black intermixed, the browns eventually giving way to the blacks. On the interscapulum and back is a small patch of black feathers with merely a few that are brown; the throat is jet-black; the cheeks shew a mixture of black and brown; the breast and abdomen are white; the scapulars not a clear white; the wings and tail are marked with white as in the adult; the

wings, their coverts, and the tail are uniform brown; the bill and feet black.

Specimens E and F.—Both about the same age and just out of the nest in localities three hundred miles apart. The characteristic white marks upon the wings and tail that distinguish this species are clearly shown. The greater part of each contour-feather and wing-covert is marked longitudinally with white in E and light rufous brown in F; the breast is blotched with white upon black and partly upon brown in F, while light rufous takes the place of white in E. The birds thus present a much streaked and blotched appearance. E has a black iris, the upper and lower surfaces of the bill blackish with the lateral parts dull yellowish. It is noticeable as regards F (kindly furnished by Mr. L. D. Cameron) that the main white parts of the wings and tail in the adult are also white in this skin, but all the other parts, such as the edging to the quills and scapulars, which should be white, are light rufous brown.

I observe, in the limited number of skins at my disposal, that, of the male birds collected in Victoria during September and in West Australia during October, the former are much blacker and have reflecting surfaces.

In the development of the male of this species there are three stages of plumage that are quite dissimilar:—1. The streaked phase; 2. The greyish-brown and white; 3. The deep black and white*.

12. *PSEUDOGERYGONE CULICIVORA*. Western Fly-eater.
(Hall's Key, p. 14.)

One adult skin obtained 27.9.99. Denmark River.

High up in the tall Karri-timber you may expect to find

* Since writing these notes, I find that my collection furnishes the intermediate stage required. Locality Kewell, Vic. ♂ juv. (skin), Oct. 1896, obtained by Mr. Joseph A. Hill. All the upper surface is brownish grey, except for a few black feathers coming on the interscapulium and upper tail-coverts, which indicate a moult for the next stage; throat and chest brownish; rest of under surface white; tail-feathers brown. It is noticeable that while the younger stages E and F exhibit black tails similar to those of the adult, this phase and the more developed specimen D have tails that are for the most part brown.

this tiny bird. In order to see it for the first time you must trace it by the "see-saw" music, and the most pleasing voice in the western bush, which should not be compared with that of a *Malurus*, for there is no vivacity in it and not much energy is expended. Rather does it tend towards a lullaby. To hear it aloft among the branches for the first time and to trace it to one of the smallest of our birds, say 200 feet above, is a special delight to a naturalist.

13. *MALURUS ELEGANS*. Red-winged Wren. (Hall's Key, p. 16.)

A & B. Ad. ♂ s. } 27.9.99. Denmark River.
C. Ad. ♀ . }

The feathers of the back appear as if in two layers, an upper silvery blue and an under silvery white, both intermingling to give the silvery appearance. The blue feathers are visible for nearly three quarters of an inch.

14. *MALURUS LAMBERTI*. Lambert's Wren. (Hall's Key, p. 16.)

A, B, C, D. Ad. ♂ s. 15th to 29th Oct., 1899. Geraldton.

This species was fairly plentiful on the scrub-covered sand-hills of the beach at Geraldton, and the discovery of a nest with three unfledged young (28.10.99) warned me that it was breeding-time. The nest was constructed in much the same manner as that of *M. cyaneus*, and was placed in a *Melaleuca* not above twelve inches from the ground.

Since my return, I have been informed from Geraldton that the males have moulted and become like the females in plumage.

15. *RHIPIDURA ALBISCAPA*. White-shafted Fan-tail. (Hall's Key, p. 17.)

A. Ad. Tor Bay, Albany. 30.9.99.

B. Ad. Katanning. 6.10.99.

I here record this species as found in Western Australia, and venture to do so because I cannot recognise in these skins *R. preissi* of Cabanis, the difference, if any, between that and *R. albiscapa* appearing to me to be of the

slightest. Skin A is as like a Victorian skin dated 17.7.96 (1-2 years old) as those of any two birds from localities so far apart can be*. This induces me to consider the western species as identical with the eastern, and in support of my view I may adduce the following points :—

Dr. Sharpe, in the Brit. Mus. Cat., has left the question open, because the key given for *R. preissi* is in the main the same as that for *R. pelzelni* of Norfolk Island. Mr. Gould called the former a species on the authority of Dr. Cabanis; and Dr. Sharpe, I believe, had a bird in the Museum (Gray's Hand-list, p. 331, 1869) which did not convince him that the species was valid, although he did not make a synonym of the name on account of the doubt attaching to it.

Eggs found last season south-east of the Stirling Range may be described as resembling those of the eastern form.

16. *SISURA INQUIETA*. Restless Flycatcher. (Hall's Key, p. 19.)

An adult skin secured upon the banks of the Denmark River (2.10.99) has its chest pure white and the primaries blue-black, in keeping with the secondaries.

17. *ACANTHIZA INORNATA*. Plain-coloured Tit. (Hall's Key, p. 25.)

Two adult specimens were secured between Albany and the Denmark River on the 5th and 7th of November.

18. *ACANTHIZA APICALIS*. Broad-tailed Tit. (Hall's Key, p. 25.)

A. Ad. ♀. } Denmark. 3.11.99.

B. Ad. ♂. }

C. Ad. } Tor Bay, Albany. 30.9.99.

D. Ad. }

* While age intensifies the black of the collar beneath the throat, it also makes the contrast clearer between this collar and the tawny chest of the perfectly mature eastern bird. As to the West-Australian bird having more white on the terminal half of the tail, I can only say that its tail must be nearly all white if it has more of that colour than is shown in one of my skins (3.8.96, Victoria). I consider this difference as merely a matter of age, and that Gould's record needs his specimens to support it (see his 'Handbook,' i. p. 246).

The tendency of the subterminal black band in this species is to be as strongly marked on the outer web as on the inner; while in *A. pusilla*, which bears a strong likeness to it, the tendency is for the inner web alone to be banded with black. The inner web of each rectrix is more or less tipped with white in the males and females of this form.

Along the partially cleared river-tracts, due to the work of saw-millers, this little bird is always obtainable during the aforesaid months of the year. From one nest I extracted a young Cuckoo (*Cuculus flabelliformis*), almost fledged, and a pathetic lamentation was set up by the foster-parents. Taking the nest from among the *Melaleuca* branches, I placed it at the base of the tree, when the little Tits approached very closely and became quite excited. A and B indicate these birds, while the "parasite" is elsewhere referred to.

19. *ACANTHIZA CHRYSORRHOA*. Yellow-rumped Tit. (Hall's Key, p. 25.)

Two adult skins obtained on September 27th and 28th, twenty miles apart (Denmark and Tor Bay), have a deeper coloured plumage than my eastern skins, and also a portion of the barb of each feather of the occiput striped with black. A comparison with more specimens is necessary to decide the value of the observations. At Katanning (5.10.99) I observed a rather peculiar nest. It had two entrances to the lower chamber near each other. The unroofed apartment above was higher than usual. In a proteaceous tree close by were the remains of last year's nest built upon the same principle. I secured fresh eggs near Albany on Sept. 29th, at Katanning on Oct. 5th, and at Geraldton on Oct. 28th.

20. *SERICORNIS MACULATA*. Spotted Scrub-Wren. (Hall's Key, p. 26.)

A. Advanced nestling. 13.10.99. Geraldton.

B, C. Juv. sks. 6.10.99. Katanning.

D. Sk. ad. ♂. }
E. Sk. ad. ♀. } 13.10.99. Geraldton.

F. Sk. ad. 18.10.99. Houtman's Abrolhos (East Wallabi Island).

The bird marked "advanced nestling" had left the nest and was being fed by the parents.

On the West Wallabi Island of the Abrolhos I observed an empty nest of this species. Broken shells indicated that the young had flown. Feathers within and grass without composed the nest, which was built upon the basal part of that of last year.

21. *POMATORHINUS SUPERCILIOSUS*. White-browed Babbler. (Hall's Key, p. 29.)

Sk. ad. ♂. 3.11.99. Denmark River, 10 miles from the ocean.

I was surprised to meet with a flock of half a dozen of these birds some six miles up the river from the town, living a secluded though noisy life amongst the scrub-vegetation of a giant Karri-forest. I was hunting for *Atrichia* at the time, and this will give an idea of the style of country.

22. *CINCLORHAMPHUS RUFESCENS*. Rufous Song-Lark. (Hall's Key, p. 29.)

Sk. ♂ juv. 27.10.99. Long Island, Pelsart Group, Houtman's Abrolhos.

Whole of the upper surface tawny, heavily streaked with deep brown; upper tail-coverts decidedly rufous. Under surface: throat lightly, chest heavily streaked; under tail-coverts tawny, abdomen slightly so; lower mandible pale flesh-brown. Length of wing 3.5 inches.

This species had not been previously recorded as found upon the Abrolhos. Two other specimens were observed in the mangroves of the same island.

23. *EPHTHIANURA ALBIFRONS*. White-fronted Chat. (Hall's Key, p. 30.)

Some three to four miles from Geraldton I observed a small flock, and secured a bird for identification.

24. *SPHENOSTOMA CRISTATUM*. Wedge-bill. (Hall's Key, p. 31.)

Sk. ad. ♂. 16.10.99. Geraldton.

This species is undoubtedly shy, as noted by naturalists in general. It prefers to post itself upon a dead tree just higher than the adjacent short vegetation, and there, always upon the alert, it is ready at once to drop down out of sight and to reappear later in the distance. The rendering I should give of the call is "Kit-e-lin-tof" when distant, and "Kit-e-lint-e-tof" when near. The Geraldton boys know it as the former, and pronounce the name in a sweet swinging style.

25. GYMNOTRHINA DORSALIS. Long-billed Crow-Shrike.
(Hall's Key, p. 31.)

A. Sk. ad. ♂.	6.10.99.	} Katanning.
B. Sk. imm. ♂.	5.10.99.	
C. Juv. ♂.	4.10.99.	

In the Perth Museum I was shown by Mr. Woodward six skins of birds, three being young fledglings and three older fledglings. All shewed black backs, the bulk of the feathers being edged with light brown.

Three of these birds were the result of a white-backed male mating with a black-backed female, and had each back-feather edged with brownish white. The fledgling marked C was much whiter upon the back.

At Albany I observed an individual in captivity that was about eleven months old. It had the eyebrows fawn-coloured; the scapulars and back-feathers brown, partly edged with white, but mostly with lighter brown.

From other fledglings which I saw it was evident that the species may pass through two phases before leaving the nest: (a) the dark variety mentioned from the Perth Museum, which shews a sombre neck and rump (indicating the female sex), and (b) that with the neck and rump white, and a whitish back, each feather being broadly marked subterminally with black. There are two or three feathers on the back that agree with the skins under (A). Male birds are referred to in (A) and (B).

This bird lacks the harmonious voice of its fellow species. It crows like a domestic fowl, and that is not very pleasant in a "Pie." I know of a "Pie" in captivity in

Victoria that crows just as the wild western bird does. Fresh eggs were observed at Geraldton on Oct. 13th ; and the nest, which was compactly built, was placed at the top of a *Banksia* some ten feet from the ground. It was mainly formed of light-coloured rootlets with a few heavier sticks to form a binding base. The internal layer was made up of threads from gunny-bags, collected in an adjacent wheat-field. A band of black horsehair encircled the lower part of the cavity of the nest, which was 13 inches broad, with its bowl-diameter 6 inches, and depth 3 inches. The whole depth of the nest was about 9 inches. The three eggs were of the chestnut type so often seen in Victoria.

26. *OREŒCA CRISTATA*. Bell-bird. (Hall's Key, p. 32.)

I obtained an adult at Katanning on Oct. 4th. Although I spent three days there, I did not hear any note that would correspond to the vernacular name.

27. *EOPSALTRIA GEORGIANA*. Grey-breasted Shrike-Robin. (Hall's Key, p. 33.)

A, B. Fledgling sks. 28th and 30th Sept. Tor Bay, Albany.

C, D. Imm. sks. 29.10.99. Geraldton.

E, F. Ad. sks. 26th and 28th Sept. Tor Bay, Albany.

Just as the eastern representative (*E. australis*) goes rapidly through a series of three changes and more leisurely enters a fourth (adult), so does this form. The young as they leave their nests appear, at first sight, brown, much streaked with white (A and B) ; then, judging by analogy, they quickly get a touch of olive-yellow, next get more yellow while the plumage is becoming greyer (C and D), and finally (next season) don the lighter yellow (E and F).

28. *PACHYCEPHALA OCCIDENTALIS*. Western Thick-head. (Hall's Key, p. 33.)

Skins of males were procured at Tor Bay and Katanning in the first week of October, and of females at Denmark and Tor Bay within a day or two of the same time.

I found the nest and eggs of one of the Katanning birds on Oct. 6th in a belt of *Melaleuca* alongside of the expanding

part of a creek. I could imagine quite easily that I was examining into the life-history of the eastern representative, *P. gutturalis*.

29. *CLIMACTERIS RUFÆ*. Rufous Tree-creeper. (Hall's Key, p. 35.)

A. Ad. sk. } 4.10.99. Katanning.
B. Young. }

The young bird was perched upon a log and was being fed by its parents.

Specimen B.—The dorsal surface differs from that of the adult in having the forehead and crown slate-coloured, and the lores of a similar colour with a very faint indication of chestnut; the upper tail-coverts rufous, with a wash of the same over the tail; the tail itself clearly edged with rufous. The whole under surface is like that of the adult, except the throat, which is brown washed with rufous, and the chest, which is uniform and not striped; feathers of flanks without pale tips. Bill 0.45 inch.

Amongst the tall dead timber of Tor Bay, Albany, I could see the parents taking food to their young (2.10.99).

30. *SITTELLA PILEATA*. Black-capped Tree-runner. (Hall's Key, p. 36.)

Three adult males and one adult female. 29.9.99. Tor Bay, Albany.

These four birds were seen together engaged in a frolic of some kind, and one discharge with a "half" cartridge secured them all. At Katanning, on Oct. 5th, I observed in a high dilapidated tree (that I would not trust with any additional weight) a nest of fledged young. This is a sociable bird and full of chatter.

31. *MYZOMELA NIGRA*. Black Honey-eater. (Hall's Key, p. 37.)

Two adults. 14.10.99. Geraldton.

One has the breast-marking brown; the other is black upon the breast. The few specimens of this species seen were always upon the sand-plains, which were thickly adorned with a brightly coloured covering at this time

of year, the bushes being from two to four feet high. The call of the bird is weird, and is very similar to that of *Megalurus gramineus*.

32. ACANTHORHYNCHUS SUPERCILIOSUS. White-browed Spine-bill. (Hall's Key, p. 37.)

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|---------------|----------|--------------------|--|
| A. Ad. ♂. | 2.10.99. | Denmark. | |
| B. Imm. ♀. | 26.9.99. | } Tor Bay, Albany. | |
| C. Young. | 28.9.99. | | |
| D. Fledgling. | 28.9.99. | | |

The principal fact of interest that I have to report concerning this bird is that I found several incubating females which shewed a plumage far from mature.

The architecture of two of the nests, though less splendid, resembled that of the eastern Yellow-breasted Shrike-Robin (*Eopsaltria australis*). Being placed between branching twigs and not pendent, the style was far from the normal. The structure, though symmetrical, was coarse, and the edge of the bowl was wide; it was deeper than broad and was lined with feathers. All the nests were cup-shaped. One measured: whole diameter 2.5 inches, whole depth 2, depth of bowl 1.5. While this particular fabric was placed some six feet from the ground in a *Banksia*, two others were quite eighteen feet from it. In one nest was a single nude young bird and in another an egg on the point of hatching (30.9.99), while in a third found near Albany was a very young nestling. It would seem that, according to my limited observations, the number of eggs is more often one than two.

33. ZOSTEROPS GOULDI. Green-backed Silver-eye. (Hall's Key, p. 38.)

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|------------|--------------------------|-----------|
| A. Ad. sk. | Tor Bay, Albany. | 29.9.99. |
| B. Ad. sk. | Geraldton. | 13.10.99. |
| C. Ad. sk. | Wallabi Group, Abrolhos. | 20.10.99. |
| D. Young. | Geraldton. | 13.10.99. |

The sides of the body in all the above skins are only a shade more ashen than the breast.

Young. Specimen D.—Although having just left the nest

and being fed by a parent when I saw it, in the early stage of plumage this individual bore a strong likeness to that of the adult. The throat was faintly marked with yellow and the under tail-coverts more strongly but not so distinctly as in the older bird. Both throat and coverts would have the yellow intensified at the next change of plumage.

I very frequently met with this species, and was pleasantly surprised to receive a favourable report of it from the owner of an isolated garden upon the Denmark River. This garden contained an acre under fruit, while for twenty miles round there was not so much as a single introduced tree; yet aphides were at work, and the Silver-eye is now secure in the affection of the owners on account of the good deed it performs in ridding the orchard of the scourge. At Geraldton a young collector told me that this species is very sensitive, for if you touch the eggs it will throw them out of the nest and rebuild it elsewhere with the same materials. It is quite as sensitive as *Menura victoriae* and *Anas superciliosa*. In a low myrtaceous shrub, thickly enveloped by a twining "native hop," my young friend, Mr. Douglas Darling, found a nest made principally of Clematis fruits and to a less extent of horsehair. Its external diameter was 2.5 inches, internal diameter 1.75, depth of bowl 1.25. There were three eggs on the point of hatching (13.10.99):

On the Houtman's Abrolhos more than a pair could be found upon the larger islands, but I saw only a couple on each of the smaller. For instance, I traversed one, of say twenty acres at the most, covered with stunted shrubs, and could only get a single pair of birds to rise. On another treeless islet off East Wallabi Island, a genuine coral mass of some three-quarters of a mile in length and one hundred yards in width, I saw only one bird. Upon this "hunch," depressed in the centre and containing brackish water, grew some "salt-bush" shrubs, acacia (three feet high), and mesembryanthemum. In the last-named was placed a nest with three fresh eggs (21.10.99) within four inches of the "coral and guano" ground. The nest was

of quite a new description, not only on account of its seaweed material and beautiful construction, but also from its unique position in "pig-face" so very near the ground. Silver-eyes and Sericorns seem to be the pioneers of Passerine birds. Except for a stray percher or two, they admit of no rivalry in their monarchy.

[To be continued.]

IX.—Notices of recent Ornithological Publications.

1. 'Annals of Scottish Natural History.'

[The Annals of Scottish Natural History. No. 39, July 1901, and No. 40, October 1901.]

In recording the occurrence of *Linota rostrata* (Coues) from Barra, Outer Hebrides, Mr. W. Eagle Clarke justly observes that "a knowledge of the various races of the Arctic or Mealy Redpolls inhabiting the Old and the New Worlds is desirable for the more precise study of the British birds of the group"; but some of us may think that "this way madness lies" before such knowledge is attained. Mr. George Sim's announcement of the capture of a Black Kite (*Milvus migrans*) near Aberdeen on April 16th last is of considerable interest, for this is only the second record for Great Britain of a species which is emphatically migratory and nests annually at no greater distance from us than the banks of the Mosel; so that instances of its more frequent occurrence might be reasonably expected. Moreover there is not much chance of a large raptorial bird escaping observation—not to say destruction—in these days. Mr. T. G. Laidlaw concludes his Report on the movements and occurrences of birds in Scotland during 1900; and from this, as well as from some minor notices for 1901, it is evident that the Great Spotted Woodpecker (*Dryocopus major*) is decidedly increasing as regards frequency of breeding in the south of Scotland. Mr. Sturrock states that in the south of Shetland, in 1901, he captured a Redstart (*Ruticilla phaniceus*) in the act of building a